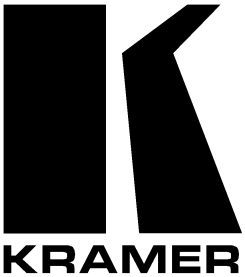
Kramer Electronics, Ltd.



USER MANUAL

Model:

WP-210A

XGA/Audio Line Driver

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1 Introduction

Welcome to Kramer Electronics (since 1981): a world of unique, creative and affordable solutions to the infinite range of problems that confront the video, audio and presentation professional on a daily basis. In recent years, we have redesigned and upgraded most of our line, making the best even better! Our 500-plus different models now appear in 8 Groups[1], which are clearly defined by function.

Congratulations on purchasing your **WP-210A** *XGA/Audio Line Driver* active wall plate[2], which is ideal for graphics and audio installations in board, conference and training rooms, as well as long distance signal distribution. The package includes the following items:

- **WP-210A** *XGA/Audio Line Driver*
- This user manual[3]

2 Getting Started

We recommend that you:

- Unpack the equipment carefully and save the original box and packaging materials for possible future shipment
- Review the contents of this user manual
- Use Kramer high performance high resolution cables[4]

3 Overview

The Kramer **WP-210A** *XGA/Audio Line Driver*—part of our successful line of Wall Plate Adapters—is an enhanced version of our popular **WP-210** *XGA Line Driver* wall plate.

The **WP-210A** *XGA/Audio Line Driver* includes:

- A VGA input (up to UXGA resolution) on a standard HD-15 connector
- Local monitor loop-through on an HD15F connector

1 GROUP 1: Distribution Amplifiers; GROUP 2: Video and Audio Switchers, Matrix Switchers and Controllers; GROUP 3: Video, Audio, VGA/XGA Processors; GROUP 4: Interfaces and Sync Processors; GROUP 5: Twisted Pair Interfaces; GROUP 6: Accessories and Rack Adapters; GROUP 7: Scan Converters and Scalers; and GROUP 8: Cables and Connectors

2 In addition to our active wall plate devices, Kramer's WP series consists of passive wall plate and passive connection modules that work with the WP Frame and/or the VPM-2 XGA Line Driver wall plate

3 Download up-to-date Kramer user manuals from the Internet at this URL: http://www.kramerelectronics.com

4 The complete list of Kramer cables is on our Web site at http://www.kramerelectronics.com

- An amplified and equalized RGBHV output on 5 BNC connectors
- An unbalanced stereo audio input on a 3.5mm mini jack
- A balanced stereo audio output on a terminal block connector

In particular, the **WP-210A** *XGA/Audio Line Driver* has:

- Level[1] control
- Cable equalization control
- Left and right audio level controls
- Buttons for ID Bit control and loop termination
- Switches to select between analog / digital sync operation
- Resolution exceeding UXGA, that ensures transparent operation
- A standard 12 Volt DC feed

Achieving the best performance means:

- Connecting only good quality connection cables, thus avoiding interference, deterioration in signal quality due to poor matching, and elevated noise levels (often associated with low quality cables)
- Avoiding interference from neighboring electrical appliances
- Positioning your **WP-210A** away from moisture, excessive sunlight and dust

4 Your WP-210A XGA/Audio Line Driver

This section defines the **WP-210A** *XGA/Audio Line Driver*:

- Front panel (see section 4.1)
- Left panel (see section 4.2)
- Right panel (see section 4.3)

1 VGA/UXGA output signal

4.1 Your WP-210A Front Panel

Figure 1 and Table 1 define the front panel of the **WP-210A**:

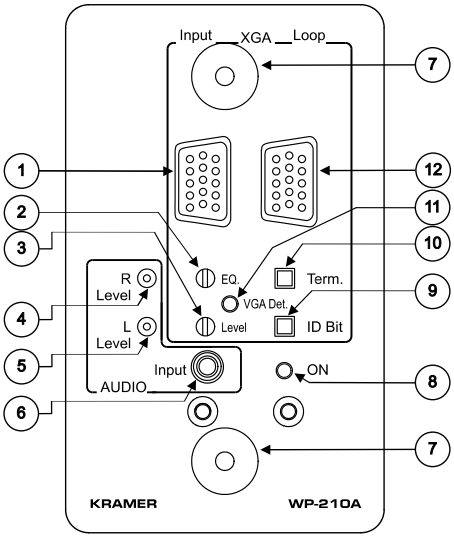

Figure 1: WP-210A Front Panel

Table 1: WP-210A Front Panel Features

#	Feature	Function
1	*Input* HD15F Connector	Connect to the VGA/XGA source
2	*EQ.*[1] Potentiometer	Adjusts[2] the cable compensation equalization level
3	*Level* Potentiometer	Adjusts[2] the output signal level
4	*AUDIO R Level* Trimmer	Adjusts[3] the right audio output signal level
5	*AUDIO L Level* Trimmer	Adjusts[3] the left audio output signal level
6	*AUDIO Input* 3.5mm Mini Jack	Connects to the unbalanced stereo audio source
7	Holes (2)	For fastening the wall plate in place
8	*ON* LED	Illuminates when receiving power
9	*ID Bit* Button	Selects ID BIT when pushed in (when outputting a VGA signal from a notebook to an external VGA monitor[4])
10	*Term.* Button	Terminates with 75Ω when pushed in, or release for looping
11	*VGA Det.* LED	Illuminates when detecting an XGA[5] signal
12	*Loop* HD15F Connector	For VGA/XGA looping to increase output availability

1 Degradation and VGA/XGA signal loss can result from using long cables (due to stray capacitance), sometimes leading to a total loss of sharpness in high-resolution signals

2 Use a screwdriver to carefully rotate the Potentiometer, adjusting the appropriate level

3 Insert a screwdriver into the small hole and carefully rotate it, trimming the appropriate audio output level

4 When the ID BIT is ON, the notebook will output to an external VGA monitor

5 At any resolution (VGA, SVGA, XGA and so on, and HD resolutions)

4.2 Your WP-210A Left Panel

Figure 2 and Table 2 define the left panel of the **WP-210A**:

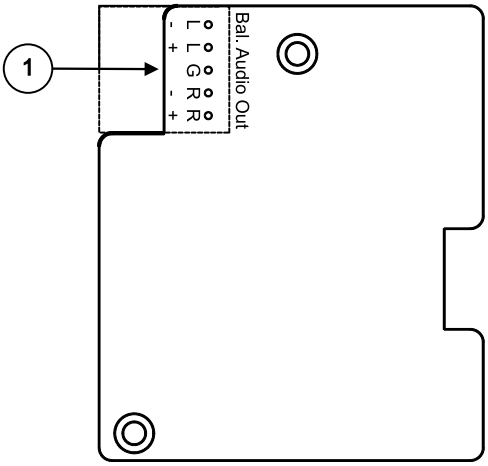

Figure 2: WP-210A Left Panel

Table 2: WP-210A Left Panel

#	Feature	Function
1	Bal. Audio Out Terminal Block Connector	Connects to the balanced stereo audio acceptor

4.3 Your WP-210A Right Panel

Figure 3 and Table 3 define the right panel of the **WP-210A**:

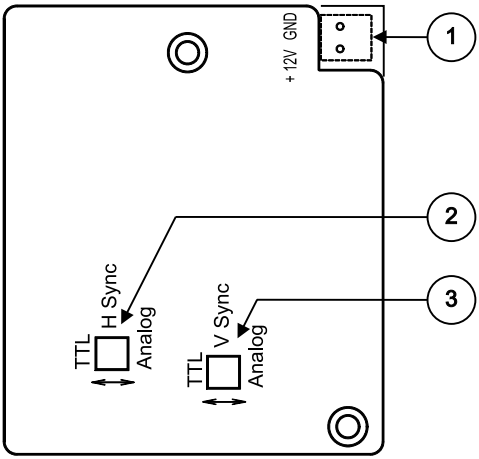

Figure 3: WP-210A Right Panel

Table 3: WP-210A Right Panel

#	Feature	Function
1	*+12V GND*	+12V DC connector for powering the unit
2	H (Horizontal) Sync Switch	Set both switches to TTL for a digital sync source (for example, a graphics card from a PC or laptop). Set both switches to Analog if the source is analog based, for example, an RGBHV source with coaxial cable for sync, such as a camera with analog H and V syncs
3	V (Vertical) Sync Switch	

5 Using the WP-210A XGA/Audio Line Driver

You can use your **WP-210A** *XGA/Audio Line Driver*, for example, in a conference room, as the example in Figure 4 illustrates:

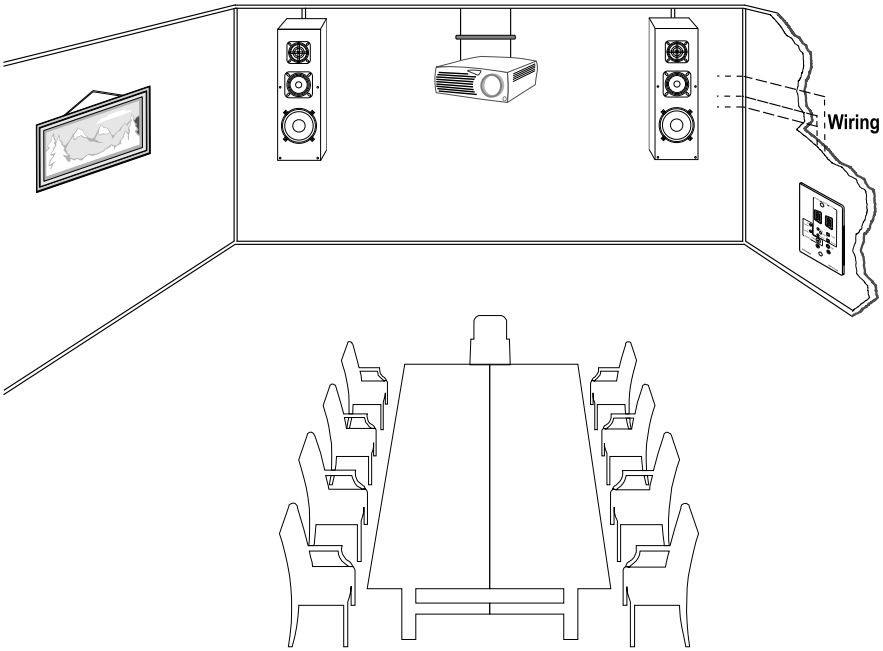

Figure 4: Example of Conference Room WP-210A Installation

For details of how to:

- Install your **WP-210A** *XGA/Audio Line Driver*, see section 5.1
- Operate your **WP-210A** *XGA/Audio Line Driver*, see section 5.2

5.1 Installing the WP-210A XGA/Audio Line Driver

To install your **WP-210A** *XGA/Audio Line Driver*:

1. Connect the 5 RGBHV BNC output connectors[1] to the pre-installed wiring in the wall box opening that connects to the XGA acceptor (for example, a projector), as Figure 5 defines.

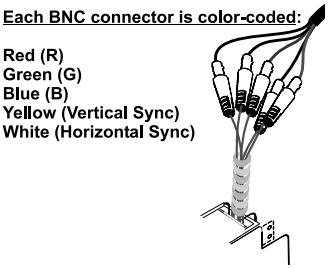

Figure 5: WP-210A RGBHV Outputs

2. Connect the terminal block balanced stereo output as one of the following:

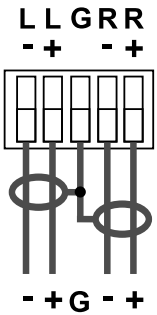

Figure 6: Connecting the Balanced Stereo Audio Output to a Balanced Acceptor

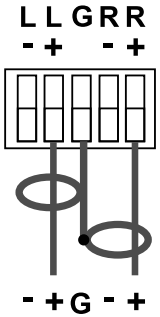

Figure 7: Connecting the Balanced Stereo Audio Output to an Unbalanced Acceptor

3. Set both the Hs and Vs switches.
4. Connect your 12V DC power supply to the terminal block connector, taking care that **polarity is correct**.
5. Insert the **WP-210A** directly into the wall box opening, and then mount the front panel securely using the screws.

1 The WP-210A could be used for component HDTV by connecting YPbPr in place of GBR, and not connecting H and V

5.2 Operating the WP-210A XGA/Audio Line Driver

To operate your **WP-210A** *XGA/Audio Line Driver*:

1. Connect your XGA source (for example, a laptop's digital graphics card) to the Input HD15F connector and to the AUDIO Input 3.5mm mini jack, for example, using a Kramer C-GMA/GMA cable (VGA HD15M +Audio jack to VGA HD15M +Audio jack)[1].
   Alternatively, you can connect an XGA source to the Input HD15F connector, and a separate audio source to the AUDIO Input.
2. Connect the HD15F Loop connector to a local monitor, if required.
3. Push in the ID Bit button to set to ON.
4. Adjust[2] the output signal level and/or cable compensation equalization level, if required, as well as the right[3] and/or left[3] audio output signal levels.

1 Not supplied. The complete list of Kramer cables is on our Web site at http://www.kramerelectronics.com

2 Use a screwdriver to carefully rotate the Potentiometer, adjusting the appropriate level

3 Insert a screwdriver into the small hole and carefully rotate it, trimming the appropriate audio output level

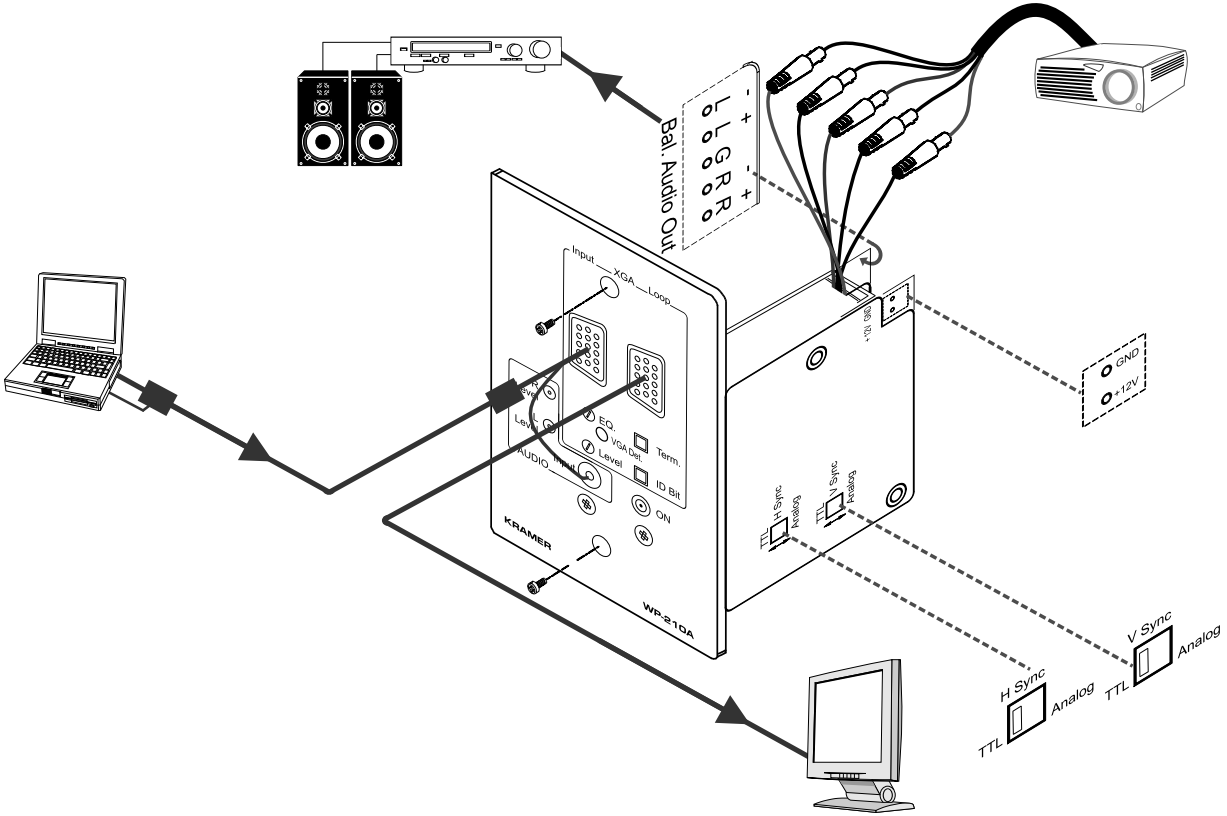

Figure 8: Connecting the WP-210A

6 Technical Specifications

Table 4 includes the technical specifications:

Table 4: Technical Specifications[1] of the WP-210A XGA/Audio Line Driver

INPUTS:	VIDEO: Looping analog red, green, blue signals: 0.7 Vpp/75 Ω, H and V sync, TTL level, on HD15F connectors	AUDIO: Unbalanced stereo 3.5mm mini jack
OUTPUTS:	VIDEO: 1 RGBHV on 5 BNC connectors	AUDIO: Balanced stereo terminal block connector
MAX. OUTPUT LEVEL:	VIDEO: 2Vpp	AUDIO: 5.3Vpp
RESOLUTION:	Exceeding UXGA	
DIFF. GAIN:	0.05%	
DIFF. PHASE:	0.02 Deg.	
K-FACTOR:	<0.05%	
S/N RATIO:	VIDEO: 74.2dB	
CONTROLS:	Cable EQ. control: 0dB to +8dB @ 50 MHz; Level control: -1.3dB to +6dB ID BIT button; TERM button; Hs (Horizontal) and Vs (Vertical) Sync switches; right and left audio level controls	
COUPLING:	VIDEO: AC	AUDIO: AC
AUDIO BANDWIDTH:	>100kHz	
AUDIO THD + NOISE:	<0.032%	
AUDIO 2nd HARMONIC:	<0.005%	
POWER SOURCE:	12 VDC, 95mA	
DIMENSIONS:	6.9cm x 5.0cm x 11.4cm (2.72" x 1.97" x 4.49", W, D, H)	
WEIGHT:	0.3 kg (0.67 lbs.) approx	
ACCESSORIES:	Power supply	

1 Specifications are subject to change without notice

LIMITED WARRANTY

Kramer Electronics (hereafter *Kramer*) warrants this product free from defects in material and workmanship under the following terms.

HOW LONG IS THE WARRANTY

Labor and parts are warranted for seven years from the date of the first customer purchase.

WHO IS PROTECTED?

Only the first purchase customer may enforce this warranty.

WHAT IS COVERED AND WHAT IS NOT COVERED

Except as below, this warranty covers all defects in material or workmanship in this product. The following are not covered by the warranty:

1. Any product which is not distributed by Kramer, or which is not purchased from an authorized Kramer dealer. If you are uncertain as to whether a dealer is authorized, please contact Kramer at one of the agents listed in the web site www.kramerelectronics.com.
2. Any product, on which the serial number has been defaced, modified or removed.
3. Damage, deterioration or malfunction resulting from:
   - i) Accident, misuse, abuse, neglect, fire, water, lightning or other acts of nature
   - ii) Product modification, or failure to follow instructions supplied with the product
   - iii) Repair or attempted repair by anyone not authorized by Kramer
   - iv) Any shipment of the product (claims must be presented to the carrier)
   - v) Removal or installation of the product
   - vi) Any other cause, which does not relate to a product defect
   - vii) Cartons, equipment enclosures, cables or accessories used in conjunction with the product

WHAT WE WILL PAY FOR AND WHAT WE WILL NOT PAY FOR

We will pay labor and material expenses for covered items. We will not pay for the following:

1. Removal or installations charges.
2. Costs of initial technical adjustments (set-up), including adjustment of user controls or programming. These costs are the responsibility of the Kramer dealer from whom the product was purchased.
3. Shipping charges.

HOW YOU CAN GET WARRANTY SERVICE

1. To obtain service on you product, you must take or ship it prepaid to any authorized Kramer service center.
2. Whenever warranty service is required, the original dated invoice (or a copy) must be presented as proof of warranty coverage, and should be included in any shipment of the product. Please also include in any mailing a contact name, company, address, and a description of the problem(s).
3. For the name of the nearest Kramer authorized service center, consult your authorized dealer.

LIMITATION OF IMPLIED WARRANTIES

All implied warranties, including warranties of merchantability and fitness for a particular purpose, are limited in duration to the length of this warranty.

EXCLUSION OF DAMAGES

The liability of Kramer for any effective products is limited to the repair or replacement of the product at our option. Kramer shall not be liable for:

1. Damage to other property caused by defects in this product, damages based upon inconvenience, loss of use of the product, loss of time, commercial loss; or:
2. Any other damages, whether incidental, consequential or otherwise. Some countries may not allow limitations on how long an implied warranty lasts and/or do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations and exclusions may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights, which vary from place to place.
NOTE: All products returned to Kramer for service must have prior approval. This may be obtained from your dealer.
This equipment has been tested to determine compliance with the requirements of:

EN-50081:	"Electromagnetic compatibility (EMC); generic emission standard. Part 1: Residential, commercial and light industry"
EN-50082:	"Electromagnetic compatibility (EMC) generic immunity standard. Part 1: Residential, commercial and light industry environment".
CFR-47:	FCC Rules and Regulations: Part 15: "Radio frequency devices Subpart B – Unintentional radiators"

CAUTION!

- ⌦ Servicing the machines can only be done by an authorized Kramer technician. Any user who makes changes or modifications to the unit without the expressed approval of the manufacturer will void user authority to operate the equipment.
- ⌦ Use the supplied DC power supply to feed power to the machine.
- ⌦ Please use recommended interconnection cables to connect the machine to other components.

For the latest information on our products and a list of Kramer distributors, visit our Web site: www.kramerelectronics.com, where updates to this user manual may be found.
We welcome your questions, comments and feedback.

Safety Warning:
Disconnect the unit from the power supply before opening/servicing.

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P/N: 2900-000210 REV 2